asmattic-docs Documentation

Release 0.4.0

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Information about development is also available

- *Developer*

- *Bash*

- *Pi*

- *Node JS*

- *Editors / IDE's*

- *Hardware*

- *Hosting, Deployment and Security*

- *Python*

- *Android*

- *APIs*

Note: Things between carets `<>` are meant to be replaced by the user. For example, `sudo ifdown <interface>` could be `sudo ifdown wlan0` depending on the specific system and device interface.

DOCUMENTATION

0.0.1

General development specifications for Asmattic Docs.

Writing This Documentation

This documentation is maintained in this Github repository https://github.com/moldfield/transparenc-docs . It is written in reStructuredText using the Sphinx tool that auto generates documentation in html and presents it in the Read the Docs theme.

The Read the Docs Account automatically updates and rebuilds the documentation upon pushing new commits to the Github repository attached to the account. The documentation is built in responsive html, PDF and Epub formats and is available for download in any of the versions that are created over time in multiple languages.

- Git Branch Control
- reStructuredText Substitutions

Some Useful Git Commands

The most common commands are

```
$ git add --all

$ git add .

$ git commit -m "Your message"

# Commit to branch
$ git push origin [your-branch]

# Don't do this unless ready to merge
$ git push origin master

# Creating a new branch and switching into it
$ git checkout -b [new-branch]

# Merging and pulling
$ git fetch --all
$ git fetch --hard origin/[your-branch]
```

When you need to combine changes made somewhere else with your current branch.

```
$ git pull origin other-branch
```

Git is basically doing this

```
$ git fetch origin other-branch && git merge other-branch
```

Updating User Role Capabilities

In the `wp_options` table, edit the `wp_user_roles` by removing the role in question. Then deactivate and activate the Asmattic Docs plugin.

TWO

WELCOME TO THE ASMATTIC DOCS DOCUMENTATION

Purpose

To educate about the use and building of Asmattic Docs.

BASH

Bash Tips

Close terminal

Ctrl + Shift + w

Some bash commands.

```
# Printing out computer hardware to .html file
$ sudo lshw -html

# Print PCI hardware
$ lspci -nn

# USB hardware
$ lsusb

# Turn off wifi Power management
$ sudo iwconfig <interface name (e.g. wlan0)> power off

# List modules
$ lsmod

# Kill radio signals ( check on this)
$ rfkill

# List channels available for device
$ iwlist chan

# Scan channels
$ iwlist scan
```

File/Folder Permissions

Permissions for files and folders are grouped in three different sections; *user*, *group* and *other*. To set permissions for each, use the chmod or "change mode" command.

```
# add -R to modify recursively
$ sudo chmod u=rwx,g=rx,o=r <myfile>
```

Table 3.1: Chmod digits

Digit	Permission
4	read
2	write
1	execute
0	no permission

Compression

Tar *(Tape Archiver)*

Table 3.2: Compression Options

Option	Description
`-c`	Create archive
`-z`	Gzip archive
`-v`	Display progress (verbose)
`-f`	Specify filename
`--exclude`	Specify files, folders or patterns to not extract
`-x`	Extract archive
`-C`	Specify directory to extract to

```
# zip
$ tar -czvf <archive-to-create.tar.gz> <folder-to-compress> --exclude="*.pdf"

# unzip
$ tar -xzvf <file-to-extract.tar.gz> -C <folder-to-extract-to>
```

Count Output

To count various things in a file or output you can use `wc`.

Table 3.3: Compression Options

Option	Thing to count
`-c`	bytes
`-m`	chars
`-l`	lines
`-w`	words

```
# count lines of output
$ <command-with-output> | wc -l
```

Storage

To list memory used by various drives and folders

```
# list storage
$ du -h
```

Clean up filesystem

```
$ sudo apt-get clean
```

Network

nmap cheat sheet

Setting up network `ssid` and `psk` can be done in the `/etc/wpa_supplicant/wpa_supplicant.conf` file.

You can also use `sudo ifquery <interface>` to find where the interface is getting it's configuration. Here is an example response.

```
wpa-conf: /etc/wpa_supplicant/wpa_supplicant.conf
```

There are a lot of other options like setting priority of networks and naming that can be found on the wiki here.

```
# Mandatory
network={
        ssid="NETWORK_SSID"
        psk="PASSWORD"

}
```

Predictable Network Names

This is the naming system used when you see more complex names for interface devices than `wlan0`

List `PCI` interfaces

`lspci`

Change Mac Address

Bring card down

`ifconfig <interface> down`

Change the address to any octet

`ifconfig <interface> hw ether dd:dd:dd:dd:dd`

Bring it back up

`ifconfig <interface> up`

Restart Network

Using wlan0 as an example.

Turn off

```
sudo ifdown wlan0
```

Turn on

```
sudo ifup wlan0
```

Restart network manager entirely. Setting an interface to monitor mode will require this to get the wifi back up.

```
sudo network-manager restart
```

Ubuntu *(and other distros)*

Check the version of distro

```
lsb_release -a
```

For *Ubuntu 17.04* the mouse speed doesn't respond to the normal settings interface but here is the best fix

Install Wireshark

1. Update PPA to latest stable version

```
sudo add-apt-repository ppa:wireshark-dev/stable
```

1. Allow superuser to run Wireshark when it asks during installation.

2. Integrate new changes

```
sudo apt-get update
```

1. Install

```
sudo apt-get install wireshark
```

1. If you selected no initially and want to change it later, run

```
sudo dpkg-reconfigure wireshark-common
```

BASH SCRIPTING

Use the backtick ' ' ' character to output to a variable rather than the console

```
var_one=`cat ls | grep .txt`
```

Installing an array of packages

```
package_list=(
        package1
        packageN
)

# The @ destructures the array members
sudo apt-get -y install ${package_list[@]}
```

Commands that depend on previous commands completing successfully

```
# In terminal
command1 && command2 && command3

# In script
# Backslash lets bash know these lines are one command
command1 \
&& command 2 \
&& command 3
```

Run commands regardless of previous commands success or failure

```
# In terminal
command1; command2; command3

# In script
# Just put each on it's own line
command1
command2
command3
```

Loops

```
some_arr=(
        "thing1"
        "thingN"
)
```

```
for i in "${some_arr[@]}"
do
        echo $i
done
```

Users

Return user

```
$ echo $(whoami)
```

LINUX FILESYSTEM

/etc

/etc/passwd

File that lists all users with all information that pertains to them. Here is an example line.

```
asmattic:x:1000:1000:asmattic,,,:/home/asmattic:/bin/bash
```

Pull out just the users from the file. This could be put into an array to find the non-sudo user inside of a bash script.

```
$ awk -F':' '{ print $1}' /etc/passwd
```

RASPBERRY PI RESOURCES

For the Raspberry Pi

Some resources.

- Raspberry Pi - The main website of Raspberry Pi
- Aircrack Ng Raspberry Pi - Install *aircrack-ng* suite on the raspberry pi.

Rename hostname

All files to edit:

- */etc/hosts*
- */etc/hostname*
- */etc/init.d/hostname.sh*
- */etc/hostapd/hostapd.conf*
- */etc/machine-info*
- */boot/hostnames*
- */etc/machine-info*

Edit */etc/hosts*

```
# Change this line
127.0.1.1 raspberrypi

# To this line
127.0.1.1 <newhostname>
```

Edit */etc/hostname*

```
# Just change the name
```

Edit */etc/machine_info*

- PRETTY_HOSTNAME=oldhostname

+ PRETTY_HOSTNAME=**newhostname**

```
:red:`- PRETTY_HOSTNAME=oldhostname`
:green:`+ PRETTY_HOSTNAME=newhostname`
```

NETWORK SETUP

For the Raspberry Pi

About the pi.

```
# Searching for the local IP address
$ nmap -sn 192.168.1.0/24
```

NODE JS

Node JS

Some resources.

- Node JS- The main node js website
- Node Version Manager - Manages node versions locally and globally

Node Version Manager

Listing

```
# List installed node versions
$ nvm ls
```

If you want to see what versions are available to install:

```
# List installed node versions
$ nvm ls-remote
```

Node Package Manager (`npm`)

Update `npm`

```
$ npm i -g npm
```

Checking for outdated packages, the latest versions and the minimum required versions.

```
$ npm outdated [-g]
```

Updating a specific package.

```
$ npm update [-g] <package>
```

List all installed packages and their dependencies in a tree structure.

```
$ npm ls
```

Removing a package

```
$ npm remove [-g] <package>
```

Socket

Note: Make sure you start the socket on the server and not the app itself with express

---

- Socket IO docs - Official documentation

```
var io = require('socket.io')(80);
var cfg = require('./config.json');
var tw = require('node-tweet-stream')(cfg);

tw.track('socket.io');

tw.track('javascript');

tw.on('tweet', function(tweet){
        io.emit('tweet', tweet);
});
```

TEXT EDITORS AND IDE'S

General editor info

- Editor Config Files - EditorConfig helps developers define and maintain consistent coding styles between different editors and IDEs.

Sublime text 3

stuff about sublime

Atom

Stuff about atom

Android Studio

Stuff about this

Vim

- Use Vim as JavaScript IDE

TEN

SUBLIME TEXT 3

Packages

SidebarEnhancements

Sidebar Enhancements

SublimeCodeIntel

SublimeCodeIntel

DocBlockr

DocBlockr

ATOM EDITOR BY GITHUB

Packages

Python

- Autocomplete Python - Python completions for packages, variables, methods and functions

HTML

- Atom HTML Preview - A live preview tool for Atom Editor

JavaScript

- language-babel -

C++

- autocomplete-clang - Autocomplete for C/C++/ObjC

Github

- Git Plus - Do the git things without the terminal

- Git Control - GUI for a lot of git commands

- Git Time Machine - GUI for git commit history

Editing

- Highlight Selected - Highlights the current word selected when double clicking.

reStructured Text

- language-restructuredtext -

VIM

Here is the GitHub repo for monokai syntax highlighting

Here is my GitHub repo for automating this installation

```
# create the necessary dirs
mkdir -p $HOME/.vim/colors
```

Here is the file to place in ~/.vim/colors

```
" Vim color file
" Converted from Textmate theme Monokai using Coloration v0.3.2 (http://github.com/
→sickill/coloration)

set background=dark
highlight clear

if exists("syntax_on")
  syntax reset
endif

set t_Co=256
let g:colors_name = "monokai"

hi Cursor ctermfg=235 ctermbg=231 cterm=NONE guifg=#272822 guibg=#f8f8f0 gui=NONE
hi Visual ctermfg=NONE ctermbg=59 cterm=NONE guifg=NONE guibg=#49483e gui=NONE
hi CursorLine ctermfg=NONE ctermbg=237 cterm=NONE guifg=NONE guibg=#3c3d37 gui=NONE
hi CursorColumn ctermfg=NONE ctermbg=237 cterm=NONE guifg=NONE guibg=#3c3d37 gui=NONE
hi ColorColumn ctermfg=NONE ctermbg=237 cterm=NONE guifg=NONE guibg=#3c3d37 gui=NONE
hi LineNr ctermfg=102 ctermbg=237 cterm=NONE guifg=#90908a guibg=#3c3d37 gui=NONE
hi VertSplit ctermfg=241 ctermbg=241 cterm=NONE guifg=#64645e guibg=#64645e gui=NONE
hi MatchParen ctermfg=197 ctermbg=NONE cterm=underline guifg=#f92672 guibg=NONE
→gui=underline
hi StatusLine ctermfg=231 ctermbg=241 cterm=bold guifg=#f8f8f2 guibg=#64645e gui=bold
hi StatusLineNC ctermfg=231 ctermbg=241 cterm=NONE guifg=#f8f8f2 guibg=#64645e
→gui=NONE
hi Pmenu ctermfg=NONE ctermbg=NONE cterm=NONE guifg=NONE guibg=NONE gui=NONE
hi PmenuSel ctermfg=NONE ctermbg=59 cterm=NONE guifg=NONE guibg=#49483e gui=NONE
hi IncSearch ctermfg=235 ctermbg=186 cterm=NONE guifg=#272822 guibg=#e6db74 gui=NONE
hi Search ctermfg=NONE ctermbg=NONE cterm=underline guifg=NONE guibg=NONE
→gui=underline
hi Directory ctermfg=141 ctermbg=NONE cterm=NONE guifg=#ae81ff guibg=NONE gui=NONE
hi Folded ctermfg=242 ctermbg=235 cterm=NONE guifg=#75715e guibg=#272822 gui=NONE
hi SignColumn ctermfg=NONE ctermbg=237 cterm=NONE guifg=NONE guibg=#3c3d37 gui=NONE
hi Normal ctermfg=231 ctermbg=235 cterm=NONE guifg=#f8f8f2 guibg=#272822 gui=NONE
hi Boolean ctermfg=141 ctermbg=NONE cterm=NONE guifg=#ae81ff guibg=NONE gui=NONE
```

```
hi Character ctermfg=141 ctermbg=NONE cterm=NONE guifg=#ae81ff guibg=NONE gui=NONE
hi Comment ctermfg=242 ctermbg=NONE cterm=NONE guifg=#75715e guibg=NONE gui=NONE
hi Conditional ctermfg=197 ctermbg=NONE cterm=NONE guifg=#f92672 guibg=NONE gui=NONE
hi Constant ctermfg=NONE ctermbg=NONE cterm=NONE guifg=NONE guibg=NONE gui=NONE
hi Define ctermfg=197 ctermbg=NONE cterm=NONE guifg=#f92672 guibg=NONE gui=NONE
hi DiffAdd ctermfg=231 ctermbg=64 cterm=bold guifg=#f8f8f2 guibg=#46830c gui=bold
hi DiffDelete ctermfg=88 ctermbg=NONE cterm=NONE guifg=#8b0807 guibg=NONE gui=NONE
hi DiffChange ctermfg=NONE ctermbg=NONE cterm=NONE guifg=#f8f8f2 guibg=#243955␣
↪gui=NONE
hi DiffText ctermfg=231 ctermbg=24 cterm=bold guifg=#f8f8f2 guibg=#204a87 gui=bold
hi ErrorMsg ctermfg=231 ctermbg=197 cterm=NONE guifg=#f8f8f0 guibg=#f92672 gui=NONE
hi WarningMsg ctermfg=231 ctermbg=197 cterm=NONE guifg=#f8f8f0 guibg=#f92672 gui=NONE
hi Float ctermfg=141 ctermbg=NONE cterm=NONE guifg=#ae81ff guibg=NONE gui=NONE
hi Function ctermfg=148 ctermbg=NONE cterm=NONE guifg=#a6e22e guibg=NONE gui=NONE
hi Identifier ctermfg=81 ctermbg=NONE cterm=NONE guifg=#66d9ef guibg=NONE gui=italic
hi Keyword ctermfg=197 ctermbg=NONE cterm=NONE guifg=#f92672 guibg=NONE gui=NONE
hi Label ctermfg=186 ctermbg=NONE cterm=NONE guifg=#e6db74 guibg=NONE gui=NONE
hi NonText ctermfg=59 ctermbg=236 cterm=NONE guifg=#49483e guibg=#31322c gui=NONE
hi Number ctermfg=141 ctermbg=NONE cterm=NONE guifg=#ae81ff guibg=NONE gui=NONE
hi Operator ctermfg=197 ctermbg=NONE cterm=NONE guifg=#f92672 guibg=NONE gui=NONE
hi PreProc ctermfg=197 ctermbg=NONE cterm=NONE guifg=#f92672 guibg=NONE gui=NONE
hi Special ctermfg=231 ctermbg=NONE cterm=NONE guifg=#f8f8f2 guibg=NONE gui=NONE
hi SpecialComment ctermfg=242 ctermbg=NONE cterm=NONE guifg=#75715e guibg=NONE␣
↪gui=NONE
hi SpecialKey ctermfg=59 ctermbg=237 cterm=NONE guifg=#49483e guibg=#3c3d37 gui=NONE
hi Statement ctermfg=197 ctermbg=NONE cterm=NONE guifg=#f92672 guibg=NONE gui=NONE
hi StorageClass ctermfg=81 ctermbg=NONE cterm=NONE guifg=#66d9ef guibg=NONE gui=italic
hi String ctermfg=186 ctermbg=NONE cterm=NONE guifg=#e6db74 guibg=NONE gui=NONE
hi Tag ctermfg=197 ctermbg=NONE cterm=NONE guifg=#f92672 guibg=NONE gui=NONE
hi Title ctermfg=231 ctermbg=NONE cterm=bold guifg=#f8f8f2 guibg=NONE gui=bold
hi Todo ctermfg=95 ctermbg=NONE cterm=inverse,bold guifg=#75715e guibg=NONE␣
↪gui=inverse,bold
hi Type ctermfg=197 ctermbg=NONE cterm=NONE guifg=#f92672 guibg=NONE gui=NONE
hi Underlined ctermfg=NONE ctermbg=NONE cterm=underline guifg=NONE guibg=NONE␣
↪gui=underline
hi rubyClass ctermfg=197 ctermbg=NONE cterm=NONE guifg=#f92672 guibg=NONE gui=NONE
hi rubyFunction ctermfg=148 ctermbg=NONE cterm=NONE guifg=#a6e22e guibg=NONE gui=NONE
hi rubyInterpolationDelimiter ctermfg=NONE ctermbg=NONE cterm=NONE guifg=NONE␣
↪guibg=NONE gui=NONE
hi rubySymbol ctermfg=141 ctermbg=NONE cterm=NONE guifg=#ae81ff guibg=NONE gui=NONE
hi rubyConstant ctermfg=81 ctermbg=NONE cterm=NONE guifg=#66d9ef guibg=NONE gui=italic
hi rubyStringDelimiter ctermfg=186 ctermbg=NONE cterm=NONE guifg=#e6db74 guibg=NONE␣
↪gui=NONE
hi rubyBlockParameter ctermfg=208 ctermbg=NONE cterm=NONE guifg=#fd971f guibg=NONE␣
↪gui=italic
hi rubyInstanceVariable ctermfg=NONE ctermbg=NONE cterm=NONE guifg=NONE guibg=NONE␣
↪gui=NONE
hi rubyInclude ctermfg=197 ctermbg=NONE cterm=NONE guifg=#f92672 guibg=NONE gui=NONE
hi rubyGlobalVariable ctermfg=NONE ctermbg=NONE cterm=NONE guifg=NONE guibg=NONE␣
↪gui=NONE
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hi rubyRegexpDelimiter ctermfg=186 ctermbg=NONE cterm=NONE guifg=#e6db74 guibg=NONE␣
↪gui=NONE
hi rubyEscape ctermfg=141 ctermbg=NONE cterm=NONE guifg=#ae81ff guibg=NONE gui=NONE
hi rubyControl ctermfg=197 ctermbg=NONE cterm=NONE guifg=#f92672 guibg=NONE gui=NONE
hi rubyClassVariable ctermfg=NONE ctermbg=NONE cterm=NONE guifg=NONE guibg=NONE␣
↪gui=NONE
hi rubyOperator ctermfg=197 ctermbg=NONE cterm=NONE guifg=#f92672 guibg=NONE gui=NONE
```

```
hi rubyException ctermfg=197 ctermbg=NONE cterm=NONE guifg=#f92672 guibg=NONE gui=NONE
hi rubyPseudoVariable ctermfg=NONE ctermbg=NONE cterm=NONE guifg=NONE guibg=NONE
↪gui=NONE
hi rubyRailsUserClass ctermfg=81 ctermbg=NONE cterm=NONE guifg=#66d9ef guibg=NONE
↪gui=italic
hi rubyRailsARAssociationMethod ctermfg=81 ctermbg=NONE cterm=NONE guifg=#66d9ef
↪guibg=NONE gui=NONE
hi rubyRailsARMethod ctermfg=81 ctermbg=NONE cterm=NONE guifg=#66d9ef guibg=NONE
↪gui=NONE
hi rubyRailsRenderMethod ctermfg=81 ctermbg=NONE cterm=NONE guifg=#66d9ef guibg=NONE
↪gui=NONE
hi rubyRailsMethod ctermfg=81 ctermbg=NONE cterm=NONE guifg=#66d9ef guibg=NONE
↪gui=NONE
hi erubyDelimiter ctermfg=NONE ctermbg=NONE cterm=NONE guifg=NONE guibg=NONE gui=NONE
hi erubyComment ctermfg=95 ctermbg=NONE cterm=NONE guifg=#75715e guibg=NONE gui=NONE
hi erubyRailsMethod ctermfg=81 ctermbg=NONE cterm=NONE guifg=#66d9ef guibg=NONE
↪gui=NONE
hi htmlTag ctermfg=148 ctermbg=NONE cterm=NONE guifg=#a6e22e guibg=NONE gui=NONE
hi htmlEndTag ctermfg=148 ctermbg=NONE cterm=NONE guifg=#a6e22e guibg=NONE gui=NONE
hi htmlTagName ctermfg=NONE ctermbg=NONE cterm=NONE guifg=NONE guibg=NONE gui=NONE
hi htmlArg ctermfg=NONE ctermbg=NONE cterm=NONE guifg=NONE guibg=NONE gui=NONE
hi htmlSpecialChar ctermfg=141 ctermbg=NONE cterm=NONE guifg=#ae81ff guibg=NONE
↪gui=NONE
hi javaScriptFunction ctermfg=81 ctermbg=NONE cterm=NONE guifg=#66d9ef guibg=NONE
↪gui=italic
hi javaScriptRailsFunction ctermfg=81 ctermbg=NONE cterm=NONE guifg=#66d9ef
↪guibg=NONE gui=NONE
hi javaScriptBraces ctermfg=NONE ctermbg=NONE cterm=NONE guifg=NONE guibg=NONE
↪gui=NONE
hi yamlKey ctermfg=197 ctermbg=NONE cterm=NONE guifg=#f92672 guibg=NONE gui=NONE
hi yamlAnchor ctermfg=NONE ctermbg=NONE cterm=NONE guifg=NONE guibg=NONE gui=NONE
hi yamlAlias ctermfg=NONE ctermbg=NONE cterm=NONE guifg=NONE guibg=NONE gui=NONE
hi yamlDocumentHeader ctermfg=186 ctermbg=NONE cterm=NONE guifg=#e6db74 guibg=NONE
↪gui=NONE
hi cssURL ctermfg=208 ctermbg=NONE cterm=NONE guifg=#fd971f guibg=NONE gui=italic
hi cssFunctionName ctermfg=81 ctermbg=NONE cterm=NONE guifg=#66d9ef guibg=NONE
↪gui=NONE
hi cssColor ctermfg=141 ctermbg=NONE cterm=NONE guifg=#ae81ff guibg=NONE gui=NONE
hi cssPseudoClassId ctermfg=148 ctermbg=NONE cterm=NONE guifg=#a6e22e guibg=NONE
↪gui=NONE
hi cssClassName ctermfg=148 ctermbg=NONE cterm=NONE guifg=#a6e22e guibg=NONE gui=NONE
hi cssValueLength ctermfg=141 ctermbg=NONE cterm=NONE guifg=#ae81ff guibg=NONE
↪gui=NONE
hi cssCommonAttr ctermfg=81 ctermbg=NONE cterm=NONE guifg=#66d9ef guibg=NONE gui=NONE
hi cssBraces ctermfg=NONE ctermbg=NONE cterm=NONE guifg=NONE guibg=NONE gui=NONE
```

Find and replace

To find and replace `item1` with `item2` and have it ask for each item.

```
# Esc key to go to command mode
:%s/item1/item2/gc
```

- `%s` for find and replace

- `g` alone wouldn't ask, it would just replace

- `gc` asks for each case

HARDWARE SPECS AND DOCUMENTATION

Lenovo ideapad Y700

Graphics Cards

Search

- GeForce 900M
- GeForce GTX 960M
- Linux 64 bit

Anker USB 3.0 docking station

The Anker docking station uses USB 3.0 and is capable of Gigabit Ethernet with 6 USB ports. The drivers are maintained by Display Link and include Ubuntu.

FIDO Universal 2 Factor Authentication (U2F)

Yubikey is a popular vendor that makes USB authentication hardware keys using the FIDO U2F standard. The newest and most versitile as of this writing is the Yubikey 4 Series as it comes in multiple form factors including USB-A, a penny sized USB-A and USB-C. While the U2F standard is the main reason for these keys, the 4 series also supports the protocols below.

- FIDO U2F
- Secure Static Passwords
- smart card (PIV)
- Yubico OTP
- Code Signing
- OpenPGP
- OATH-TOTP
- OATH-HOTP
- Challenge-Response

AMAZON WEB SERVICES S3

Deploying to AWS S3

- AWS S3 deployment - Velocity 360 Youtube video

FIFTEEN

DEPLOYING APPS AND PROJECTS

Due to the fact that there are tons of different ways to deploy apps of varying structures and architectures. I will leave the details to their respective sections and create an index of them here.

DEPLOY APPS TO HEROKU

Note: Unless otherwise specified this will refer to running a node JS server.

Setup Heroku CLI

First install the Heroku CLI and login in order to attach your local project with the heroku *git* remote.

Custom Domains

Login to the heroku cli and type in `heroku domains:add <example.io>`. Then `heroku domains` to list out the **DNS Targets** to create **CNAME** records pointing to.

Note: In **GoDaddy** you can not point the naked domain `example.io` to the Heroku **DNS Target**. You can only point a subdomain like `www.example.io` to the **DNS Target** and forward the named domain to the subdomain. This is primarily because *A* records require an IP address and Heroku doesn't have fixed IPs.

DEPLOYMENT, HOSTING AND SECURITY

- *Security*

- *Optimization*

`.htaccess`

Password Protect Website Sections

Password protect specific areas of a site from a single file to a subdomain to a full domain.

```
AuthType Basic
AuthUserFile /.htpasswds/.htpasswd
AuthName "Enter Password"

# To allow any user in the .htpasswd file
Require valid-user

# Only allow a specific user
Require exampleUser
```

The `.htpasswd` file is just a colon separated list of usernames and passwords with one user per line. The passwords are encrypted with the MD5 hash algorithm.

```
# User test with password test
test:$apr1$2FJ7tQH4$NSyHPKo3C0KNtr8kHLMYW0
```

Note: Make sure to keep the `.htpasswd` file outside any directories available to the outside world.

Optimization with `.htaccess`

From a Siteground post on WordPress Optimization here are some simple things that can improve site performance.

gZIP compression

Compress files before sending to the client.

```
## ENABLE GZIP COMPRESSION ##
AddOutputFilterByType DEFLATE text/plain
AddOutputFilterByType DEFLATE text/html
AddOutputFilterByType DEFLATE text/xml
AddOutputFilterByType DEFLATE text/css
AddOutputFilterByType DEFLATE application/xml
AddOutputFilterByType DEFLATE application/xhtml+xml
AddOutputFilterByType DEFLATE application/rss+xml
AddOutputFilterByType DEFLATE application/javascript
AddOutputFilterByType DEFLATE application/x-javascript
## ENABLE GZIP COMPRESSION ##
```

Browser caching

```
## LEVERAGE BROWSER CACHING ##
<IfModule mod_expires.c>
ExpiresActive On
ExpiresByType image/jpg "access 1 year"
ExpiresByType image/jpeg "access 1 year"
ExpiresByType image/gif "access 1 year"
ExpiresByType image/png "access 1 year"
ExpiresByType text/css "access 1 month"
ExpiresByType application/pdf "access 1 month"
ExpiresByType application/x-javascript "access 1 month"
ExpiresByType application/javascript "access 1 month"
ExpiresByType application/x-shockwave-flash "access 1 month"
ExpiresByType image/x-icon "access 1 year"
ExpiresDefault "access 2 days"
</IfModule>
## LEVERAGE BROWSER CACHING ##
```

Siteground

Content Delivery Network (CDN)

Setting up Cloud Flare on Siteground

EIGHTEEN

MONITORING, LOGGING & DEBUGGING

Sentry

Rollbar

SEO

Website Migration

> **Note:** When migrating a website make sure to collect all link references using Screaming Frog.

The

FLASK MICRODEVELOPMENT PLATFORM

Flask is a great way to create a simple and extensible server in Python. On a surface level it bears a resemblence to a nodejs express server and is similarly useful for creating a REST API.

Installation

TWENTYONE

RUNNING GIT COMMANDS IN PYTHON

Due to the environment specific complexities with running certain git commands in bash scripts, `GitPython` is supposed to take care of some of that.

```
$ sudo -H pip install GitPython
```

Note:

-H,--set-home Request that the security policy set the HOME environment variable to the home directory specified by the target user's password database entry. Depending on the policy, this may be the default behavior.

APP ARCHITECTURE

The best practices way to build production quality Android apps.

COMMON ISSUES

Android

Specific to Android.

Naming Conventions

The Android Open Source Project style guidelines have some common patterns that are in many projects and examples so here are a few to watch out for.

Field Naming Conventions

- Non-public, non-static field names start with `m`.

- Static field names start with `s`.

- Other fields start with a `lower case` letter.

- Public static final fields (constants) are `ALL_CAPS_WITH_UNDERSCORES`.

Java

Specific to Java or Androids supported features of Java.

Android Studio

Specific to Android Studio.

File accidently created as text file

If a file is created and for any reason is not registered as a `.java` file or `.class` file, follow these steps.

- Go to `file -> settings -> file types`.

- Find the type that your file appears to be (check `text`).

- Select that type and look for the name of your file and delete it from that file type so it can take it's rightful place as a `.java` file.

Debugging

Debugging over wifi can be done if you are unable to have the phone plugged into the computer while testing for any reason. This is done using *adb devices*

```
# Check devices it can find
adb devices

#
adb tcpip 5555

# Connect with IP address
adb connect <IP ADDRESS>

# Disconnect
adb disconnect <IP ADDRESS>
```

- Debug over wifi 1
- Debug over wifi 2
- Debug over wifi 3

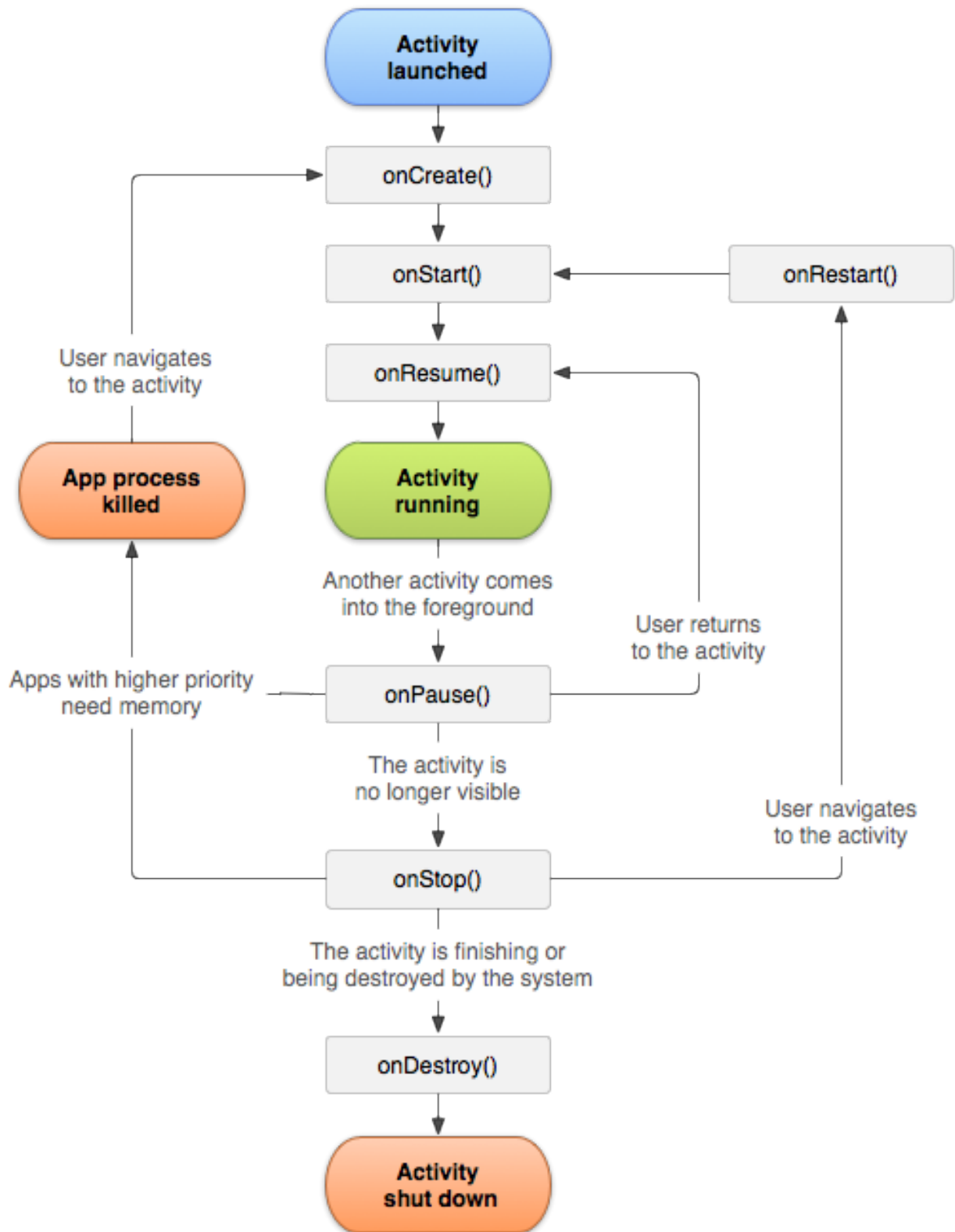# FUUNDAMENTALS

App Components

Four types:

- Services
- Activities
- Broadcast Receivers
- Content Providers

ANDROID

Beginner Tutorials

- Tuts + learn Android SDK from scratch
- Sitepoint TODO App Tutorial
- Udacity Android Class

Activity Lifecycle

Different states of the Activity components lifecycle and methods available or envoked in those stages.

Java Language Features

A non-comprehensive list of features of Java in no particular order with emphasis on elements supported by Android.

Interfaces

From the Oracle Java docs

In the Java programming language, an interface is a reference type, similar to a class, that can contain only constants, method signatures, default methods, static methods, and nested types. Method bodies exist only for default methods and static methods. Interfaces cannot be instantiated—they can only be implemented by classes or extended by other interfaces. Extension is discussed later in this lesson.

Map

HashMap

ArrayList

UI COMPONENTS

Various common components used in Android user interfaces.

Expandable List View

TWENTYSEVEN

ALL THINGS API

As much information on API's as there is time to add it.

DKE LABS

Projects

- Grim Trigger

CABANALYTICS

Resource Links

React Client Side Docs

ALL THINGS GIT

Git Basics

Enough to get started with.

```
# Check status of project
$ git status

# Adds all newly added files and directories
$ git add --all

# Adds all individual code changes in existing files and directories
$ git add .

# Commits changes to local .git folder
$ git commit -m "Your message"

# Commits to remote branch (usually master)
$ git push origin <your-branch>

# Don't do this on a non-master branch unless ready to merge
$ git push origin master

# Creating a new branch and switching into it
$ git checkout -b <new-branch>

# Merging and pulling
$ git fetch --all
$ git fetch --hard origin/<your-branch>
```

When you need to combine changes made somewhere else with your current branch.

```
$ git pull origin other-branch
```

Git is basically doing this

```
$ git fetch origin other-branch && git merge other-branch
```

Branches

```
# To list local branches
git branch
```

```
# To list remote and local branches
git branch -a
```

Merging Branches

Here is a great Atlassian article on the multiple types of merging branches.

Here is the main article from the GitHub help pages

Note: As a general strategy, it is best to merge the more important branches rather than the other way around so that the merge conflicts can be managed with less of a chance of messing up master or other stable branches.

The --no-ff creates a commit and timestamp of the merge, as well as who did it.

```
# checkout less important branch
$ git checkout <feature branch>

# merge in the more important branch
$ git merge --no-ff <branch>

# if there are conflicts see where they are
# see below on how to deal with the conflicts
$ git status

# Go into the files an
# when ready to merge into stable
$ git checkout <branch to delete>

$ git push

$ git checkout <stable branch>

# delete obsolete branch
$ git branch -d <obsolete branch>
```

If there are conflicts, you will see <<<<<<<<<HEAD or <<<<<<<<<<<<<branch> followed by the code in one branch with ========== separating the same code with changes in the other branch with >>>>>>>>>><other_branch> at the end of the changes to look at. Manually edit how you want to merge them, remove the conflict delimiters and commit the completed merge.

Deleting Branches

```
# delete remote branch
$ git push origin --delete <branch_name>

# delete local branch
$ git branch -d <branch_name>

# more foceful delete
$ git branch -D <branch_name>
```

Resetting Branch to previous commit

```
# Checkout the branch to revert
$ git checkout master

$ git reset --hard <commit>

$ git push --force origin master

# Then to prove it (it won't print any diff)
$ git diff master ..origin/master
```

Forking

Only `fork` if you intend on contributing to the code base.

Git tips and tricks

To display the current branch in the terminal follow the steps in this Howchoo atricle.

```
function parse_git_branch () {
  git branch 2> /dev/null | sed -e '/^[^*]/d' -e 's/* \(.*\)/ (\1)/'
}
YELLOW="\[\033[0;33m\]"
GREEN="\[\033[0;32m\]"
NO_COLOR="\[\033[0m\]"
PS1="$GREEN\u@\h$NO_COLOR:\w$YELLOW\$(parse_git_branch)$NO_COLOR\$ "
```

Bash scripting with git

To have the right *ssh* context in *git* you have to feed it the correct place to look for the necessary keys.

Filename: *git-ssh.sh*

```
#!/bin/sh
ssh -i "$GIT_SSH_KEY" "$@"
```

Example using *git-ssh.sh* to use pull and push functions.

```
#!/bin/bash

# For now, I know user home
user_home="/home/pi"
echo "Go to ${user_home} dir"
echo ""
cd $user_home

# sets the ssh keys to reference for git
export GIT_SSH="${user_home}/git-ssh.sh"
export GIT_SSH_KEY="${user_home}/.ssh/id_rsa"
# Remove the current ~/ddrone-pi dir
```

```
echo "Remove the current ${user_home}/ddrone-pi dir"
sudo rm -rf "${user_home}/ddrone-pi"

# TODO: Check if dke-labs-grim-trigger already exists
#       If it does, update it
dke_git_dir="${user_home}/dke-labs-grim-trigger"
ddrone_repo="git@github.com:asmattic/dke-labs-grim-trigger.git"
if [ -d "$dke_git_dir" ]
then
    echo "${dke_labs_git_dir} exists"
    # echo "Here are the branches"
    cd $dke_git_dir \
    # && git branch -a
    # echo "Type the one you want and hit [ENTER]"
    # read git_branch_to_pull
    git_branch_to_pull="master"
    echo "You chose ${git_branch_to_pull}, about to pull"
    git checkout ${git_branch_to_pull} \
    && git pull origin ${git_branch_to_pull}
else
    echo "Get the whole GitHub repo"
    echo "${ddrone_repo}"
    echo ""
    git clone $ddrone_repo
fi
```

Ignoring already tracked files and directories

First add the file or folder to the *.gitignore* file.

After that is done they can be removed from the git index by adding the *–cached* flag to *git rm*. .. code-block:: bash

> # Add -r for recursive removal $ git rm -r –cached <path-to-folder-or-file>

REACTJS

HOC Types

Functional Stateless

Class Stateful

Common Mistakes

Calling an arrow function in a *JSX* prop with parentheses is different from calling without. In order to not have the function called every time, call the function without the parentheses.

Interesting Libs and More

react-imgpro

React Image Pro is an image processing component for Reactjs that can do things like lighten, darken invert colors and more.

WORDPRESS

Setup

WEB DESIGN

JavaScript Libs

FluidVids

FluidVids is a js library that makes most common video formats responsive. Make sure to use the code in the GitHub because it's the most up to date.

THIRTYFOUR

CHROME DEVELOPER TOOLS

Settings

Appearance

Now has dark mode color scheme.

THIRTYFIVE

DOCKER

So this will start as a reliable way to build Sphinx docs across devices with well formatted LaTeX and epub formats and as it grows, a way to containerize most projects.

Here are a few links that might be useful in getting these docs to be able to contain markdown and is also an example of having them as a Docker container.

- Recommonmark Docker project on Github

- Main Docker Sphinx package

- All the HowChoo Articles on Docker

ELECTRON

Essential Electron

- Essential Electron
- Electron with React Router v4
- Electron Docs
- Electron React boilerplate with Flow Webpack React Transform Redux

Using with create-react-app

Some pull requests on the main create-react-app GitHub repo for integration with Electron.

Basic App Usage

Some tips on how to make the app feel more native.

To make text not selectable apply css to inputs

```css
.my-ui-text {
        -webkit-user-select: none;
}
```

Deploying

Many of the deployment tips and code snippets below are taken from the following list of articles.

- Tips for building cross platrofm Electron apps
- Publish a release of an Electron app

Code sign your Electron application with electron-builder

- Code signing with electron builder
- Code signing Egghead.io tutorial

Before going into more detail on the differences on each distro, here is a summary of some of the most obvious things to account for in each.

Icons

Item	Linux (Ubuntu)	Windows	Mac OS
Icon Type	`.png`	`.ico`	`.icns`

To create the `.ico` and `.icns` files from the original `.png` (use 1024 x 1024px) there are a few commands.

1. For Windows, run it through `icotools` to get an `.ico`:

   ```
   icontool -c icon.png > icon.ico
   ```

2. For macOS, run it through `png2icns` to get an `.icns`:

   ```
   png2icns icon.icns icon.png
   ```

Automatically select proper icon for the target distro.

Note: Make sure to change the version, app name, etc

```
$ electron-packager . MyApp --icon=img/icon --platform=all --arch=all --version=0.36.
↪0 --out=../dist/ --asar
```

Startup Background Color

Set background color so that it doesn't seem like a browser on startup even though it is.

```
mainWindow = new BrowserWindow({
        title: 'ElectronApp',
        backgroundColor: '#002b36'
};
```

Hide Application Until Page Loaded

```
var mainWindow = new BrowserWindow({
        title: 'ElectronApp',
        show: false,
};
```

Linux (Ubuntu)

```
mainWindow = new BrowserWindow({
        title: 'ElectronApp',
        icon: __dirname + '/app/assets/img/icon.png',
};
```

Windows

Mac

Copy and paste is not turned on by default

```javascript
if (process.platform === 'darwin') {
    var template = [{
      label: 'FromScratch',
      submenu: [{
        label: 'Quit',
        accelerator: 'CmdOrCtrl+Q',
        click: function() { app.quit(); }
      }]
    }, {
      label: 'Edit',
      submenu: [{
        label: 'Undo',
        accelerator: 'CmdOrCtrl+Z',
        selector: 'undo:'
      }, {
        label: 'Redo',
        accelerator: 'Shift+CmdOrCtrl+Z',
        selector: 'redo:'
      }, {
        type: 'separator'
      }, {
        label: 'Cut',
        accelerator: 'CmdOrCtrl+X',
        selector: 'cut:'
      }, {
        label: 'Copy',
        accelerator: 'CmdOrCtrl+C',
        selector: 'copy:'
      }, {
        label: 'Paste',
        accelerator: 'CmdOrCtrl+V',
        selector: 'paste:'
      }, {
        label: 'Select All',
        accelerator: 'CmdOrCtrl+A',
        selector: 'selectAll:'
      }]
    }];
    var osxMenu = menu.buildFromTemplate(template);
    menu.setApplicationMenu(osxMenu);
}
```

Electron React Boilerplate

VISUALIZATION

Network Visualization

Gourse Github Animation

Gourse is a Github repository visualization CLI that creates an interactive animation of contributions to a repo and has multiple options for moving the camera angle, exporting as images and even showing multiple repos .

Once in a local Github repository folder just run

```
(master) $ gourse

# for help
$ gourse -h
```

Online Manual Input Graphs (Visme)

Visme is a paid for tool that lets you type in or import a `.csv` to a spreadsheet interface and outputs a graph from various templates like funnels, bar, col, etc. and has a more infographic feel to it with optional animations. This type of implementation would be useful to model a few **React Components** after for custom data like internal company data.

MAIN SECTION

Secondary Section

Some regular text.

Bullet List

- Bullet 1
- Bullet 2
- Bullet 3

Tertiary Section

Some tertiary text.

```
Main Section
=============

.. Comment (include file below)
.. include:: ../vars.rst

.. Link to secondary section that can be referenced anywhere
.. _secondary-sec:

Secondary Section
-------------------

Some regular text.

Bullet List

    * Bullet 1
    * Bullet 2
    * Bullet 3

Tertiary Section
~~~~~~~~~~~~~~~~~~

Some tertiary text.

.. Include any file as the literal text
.. literalinclude:: basic-structure.rst
```

WRITING SPHINX RESTRUCTURED TEXT DOCUMENTATION

Installing necessary packages to build Sphinx

```
sudo apt-get update \
&& sudo apt-get -y install texlive-latex-base latexmk \
&& sudo apt-get update
```

Basic Structure

```
Main Section
============

.. Comment (include file below)
.. include:: ../vars.rst

.. Link to secondary section that can be referenced anywhere
.. _secondary-sec:

Secondary Section
-----------------

Some regular text.

Bullet List

    * Bullet 1
    * Bullet 2
    * Bullet 3

Tertiary Section
~~~~~~~~~~~~~~~~~

Some tertiary text.

.. Include any file as the literal text
.. literalinclude:: basic-structure.rst
```

Pitfalls

Two link variables in some cases cannot have the same base URL. A quick fix to this is to use an anonomous link by using two underscores.

```
`Some Link Text <http://example.com>`__
```

Code Block Syntax Highlighters

The `code-block` directive uses a library called Pigments to highlight the code inserted. Here is a useful table of languages that can be used.

Lexer	Shortname
Structured Query Language	sql
PostgreSQL dialect of SQL	postgresql
PostgreSQL procedural language	plpgsql
PostgreSQL console sessions	psql
ReStructured Text	rst
TeX and LaTeX	latex
DOS/Windows batch file	bat
Windows PowerShell	powershell
Bash shell scripts	bash
Bash shell sessions	console
Cascading Style Sheets	css
HTML 4 and XHTML 1	html
XML	xml
XSLT	xslt
XQuery	xquery
JavaScript	javascript
JSON data structures	json
PHP source code	php
PHP embedded in HTML	html+php
Python 2	python
Python 2 tracebacks	pytb
Python console	pycon
Java	java
Configuration file in the Java's properties format	jproperties
Configuration file in the Apache config file format	apacheconf
R source code (or S, or S-plus)	r
R console	rout
Matlab	matlab
Matlab sessions	matlabsession
NumPy	numpy

Resources

- reStructured text for writers - Blog post about reStructured Text

- reStructured text documentation - Official documentation

- reStructured text cheat sheet - Cheat sheet written by matplotlib creators

- Sphinx documentation - Official documentation

- Read The Docs Sphinx - RTD styleguide

- Useful table of contents info - Learn about glob matching and other include tricks